

Preparing for 2022 Hurricane Season in South Florida

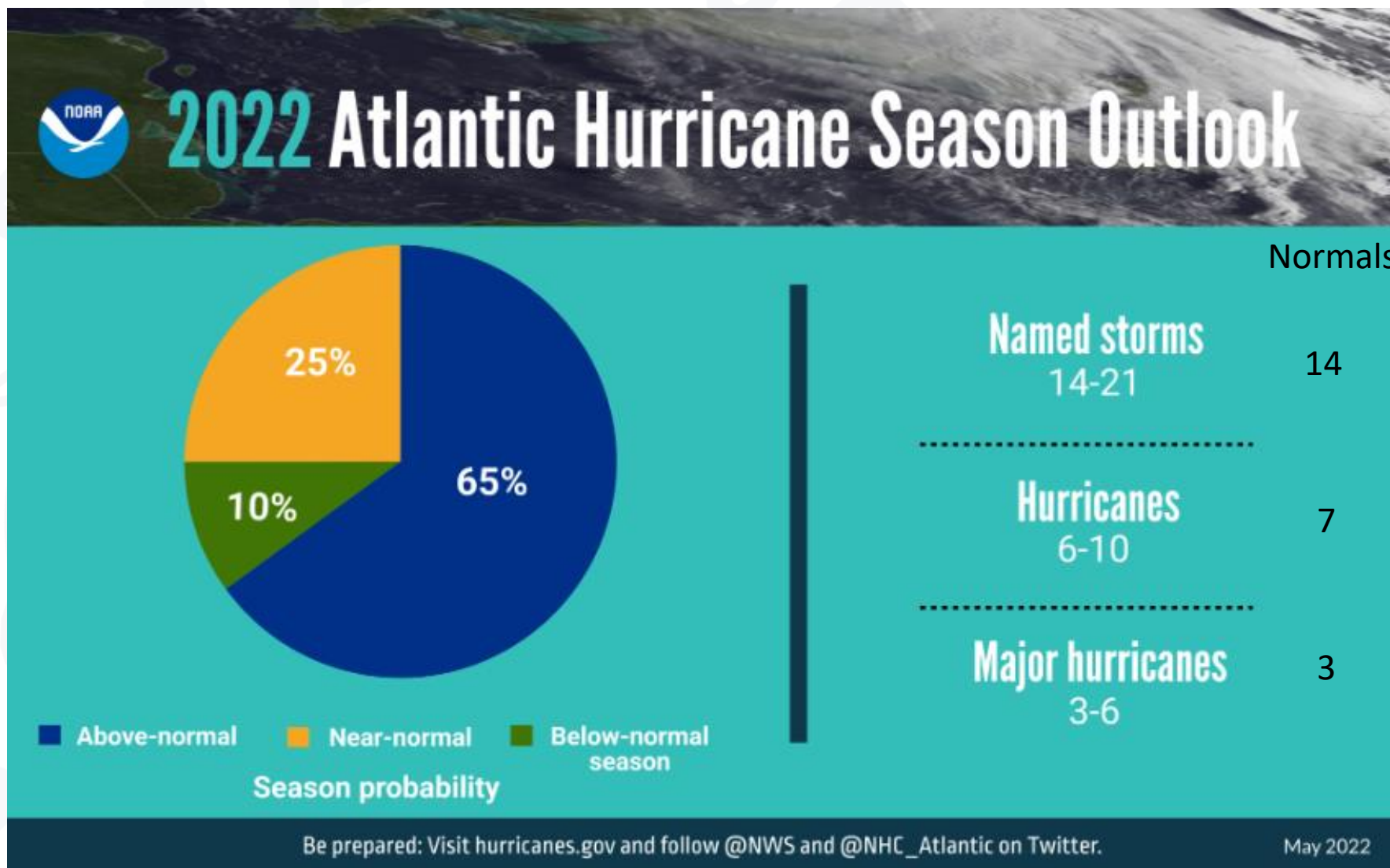
Robert Molleda

Warning Coordination Meteorologist

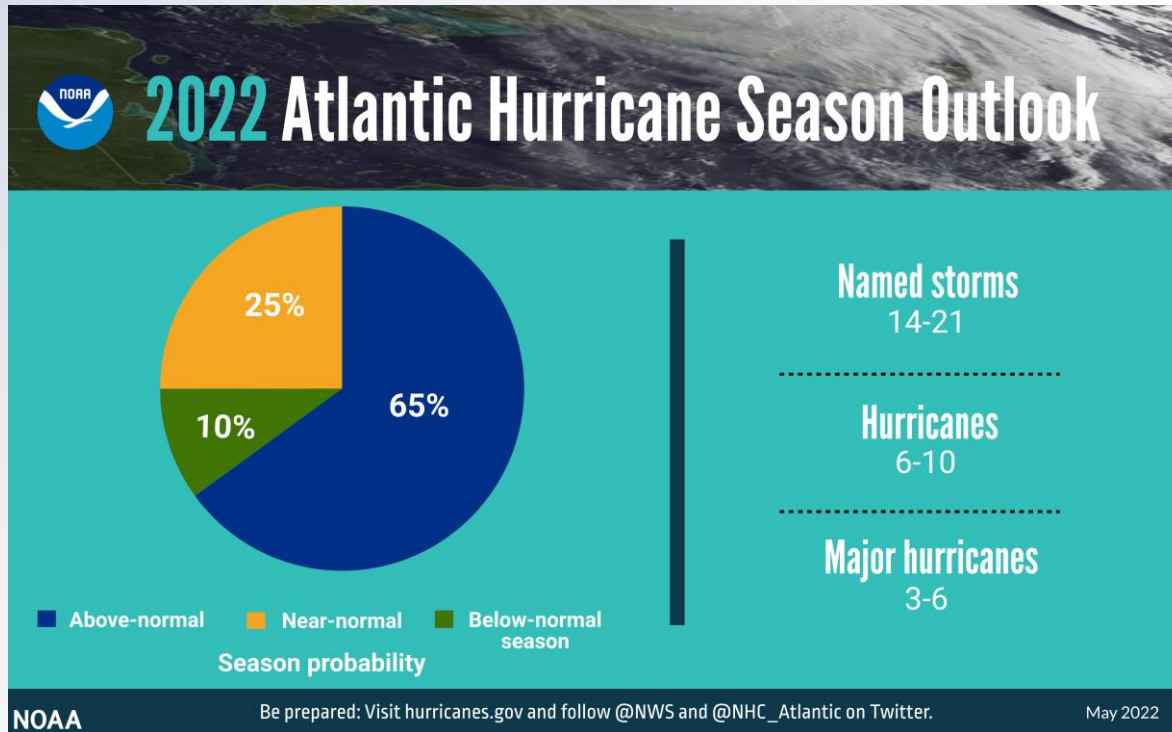
National Weather Service

Miami/South Florida Weather Forecast Office

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2022 Seasonal Forecast



Important Factors

- Ongoing La Niña likely to persist
- Above average SSTs in the Atlantic and Caribbean
- Weaker vertical wind shear
- Weaker tropical Atlantic trade winds
- Enhanced west African monsoon, which supports stronger African Easterly Waves



The graphic features a satellite image of a tropical cyclone in the background. In the top left corner is the NOAA logo. The title "2022 Atlantic Tropical Cyclone Names" is prominently displayed in white and teal. Below the title, the names are organized into three vertical columns, separated by dark teal vertical lines. At the bottom, there is a teal banner with white text providing additional information and a date.

Alex	Hermine	Owen
Bonnie	Ian	Paula
Colin	Julia	Richard
Danielle	Karl	Shary
Earl	Lisa	Tobias
Fiona	Martin	Virginie
Gaston	Nicole	Walter

Names provided by the World Meteorological Organization

Be prepared: Visit hurricanes.gov and follow @NWS and @NHC_Atlantic on Twitter. May 2022

Alternate name list will no longer use the Greek alphabet

Hurricane Season

June through November

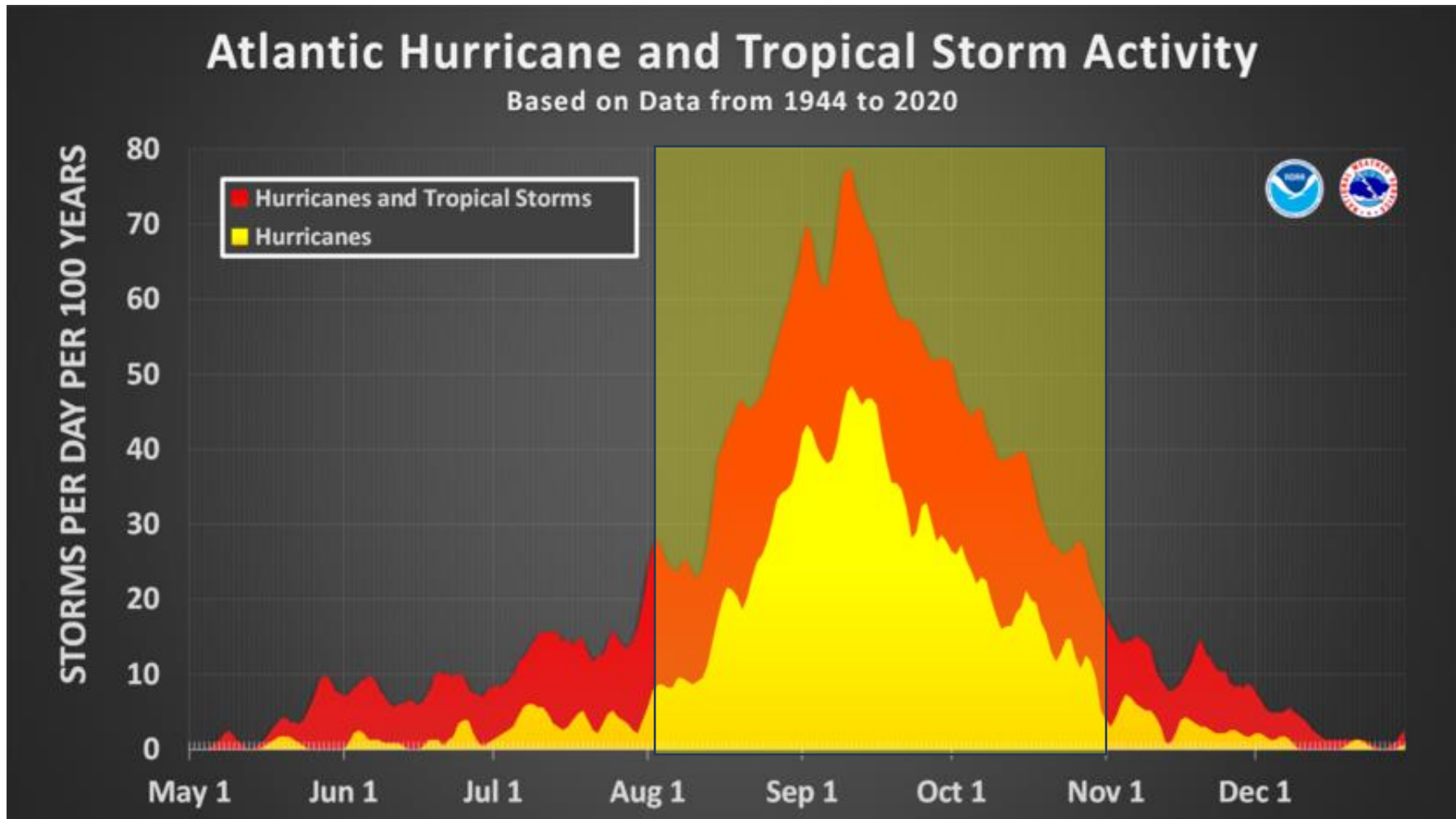


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- Hurricane season is a marathon, not a sprint. Be ready by June 1 but remain vigilant through hurricane season
- August through October is most active period
- Seasonal outlooks/forecasts don't tell most of the story. **It is NOT a landfall forecast!** Number of overall storms not a strong indicator of an area's actual chances of being hit



Atlantic Hurricane and Tropical Storm Activity



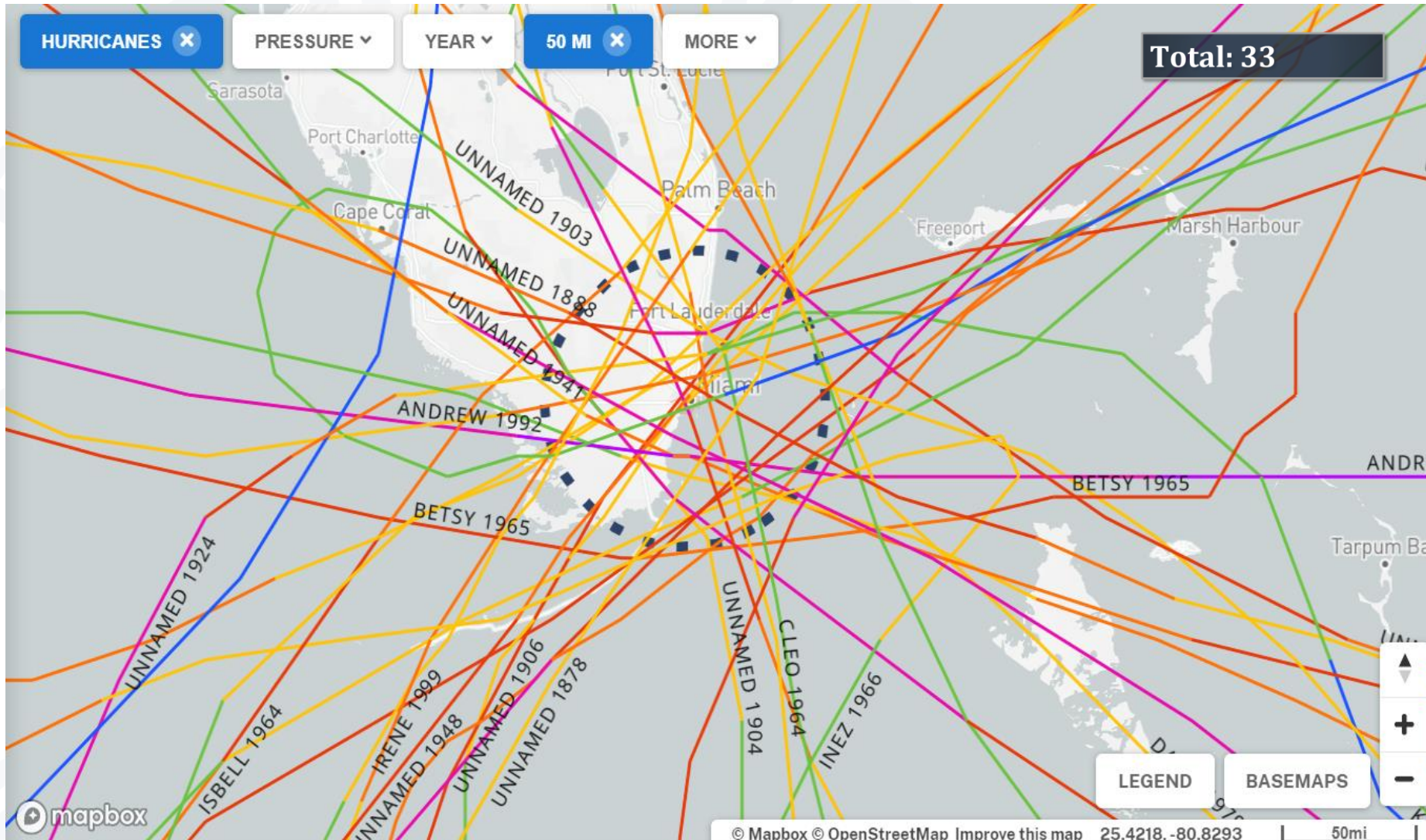
Significant increase in activity in August, September, and October

South Florida is Hurricane Country!

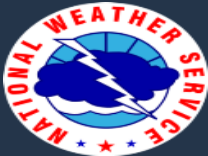


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Tracks of Center of Hurricanes Passing Within 50 Miles of Miami Since 1865

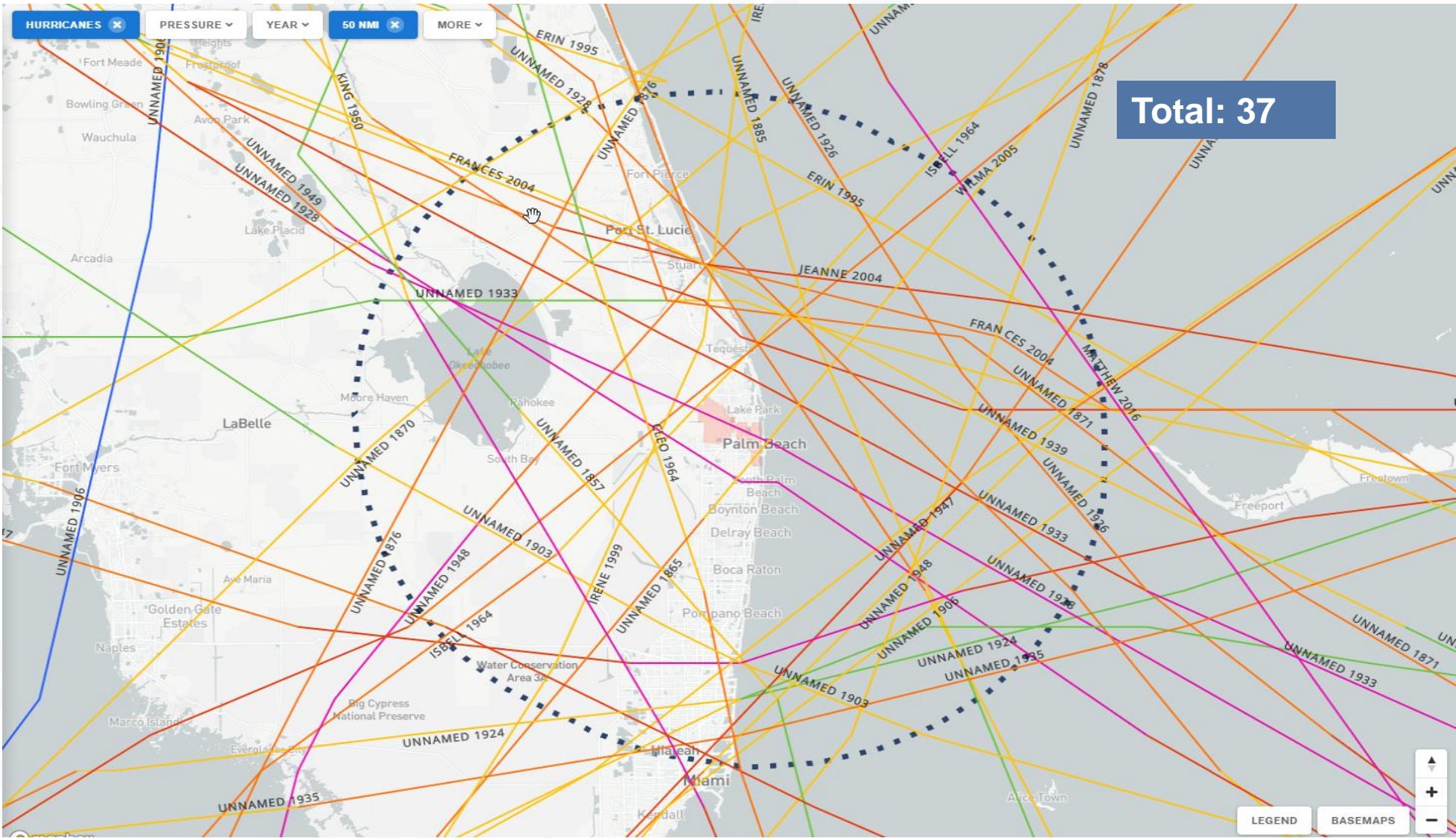


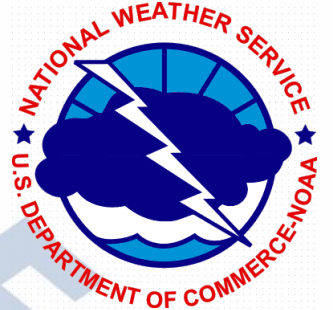
South Florida is Hurricane Country!



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Tracks of Center of Hurricanes Passing Within 50 Miles of West Palm Beach Since 1865



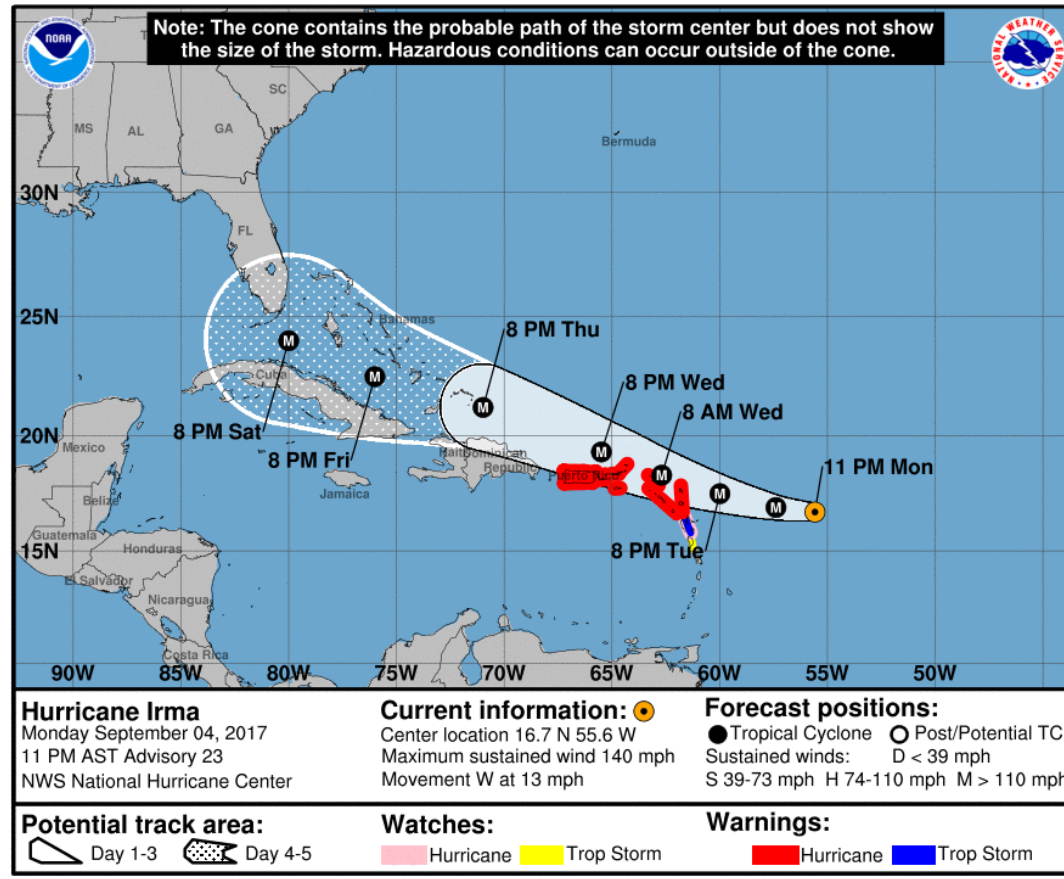


Tropical Cyclones are multi-hazard **IMPACT** events!



No matter the category!!

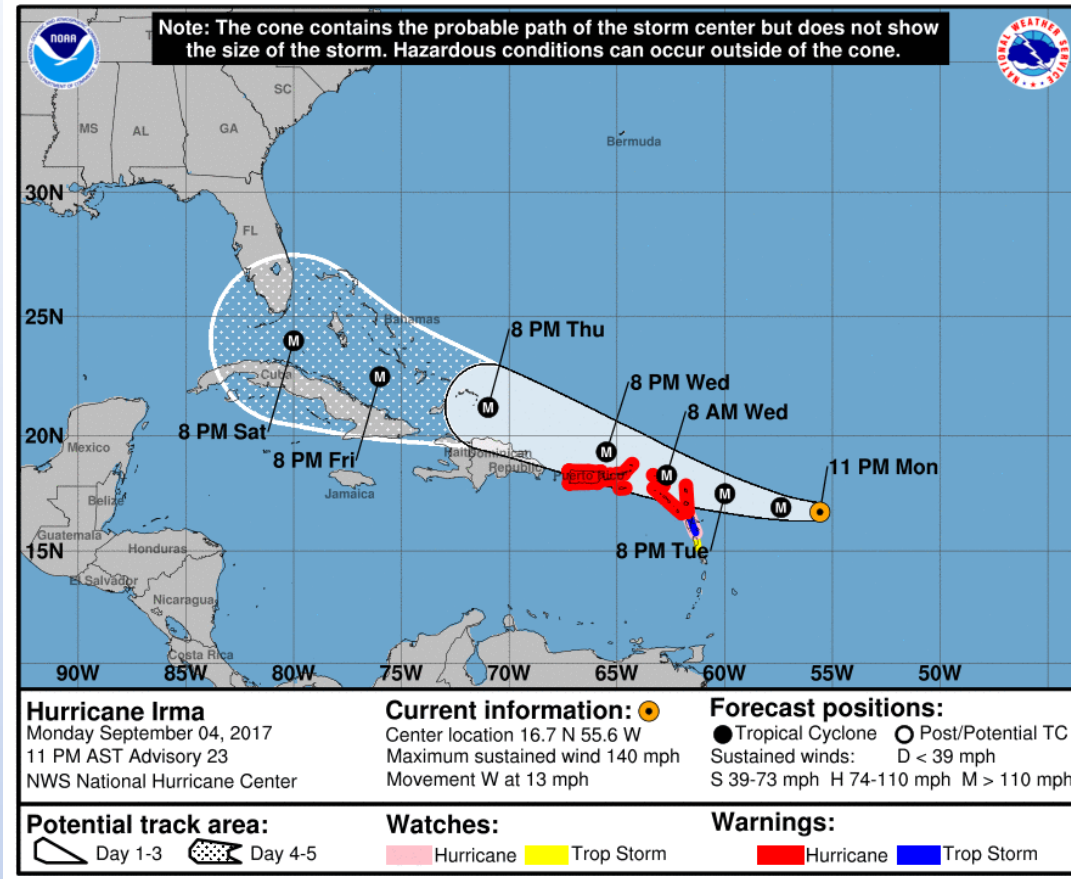
Forecast Cone: Pros and Cons



- Forecast cone tells you where the **center** of the storm is **most likely** to go
- Actual storm position will be within the circle 2/3 (67%) of the time



Forecast Cone: Pros and Cons



- Forecast cone **doesn't** give information on any of the storm's other hazards, such as storm surge, flooding rainfall, and tornadoes
- Forecast cone **doesn't** give any information on the size of the storm or the extent of the area it could impact. Forecast cone is "one size fits all"
- Impacts extend **WELL** outside the cone, especially as the storm gets closer



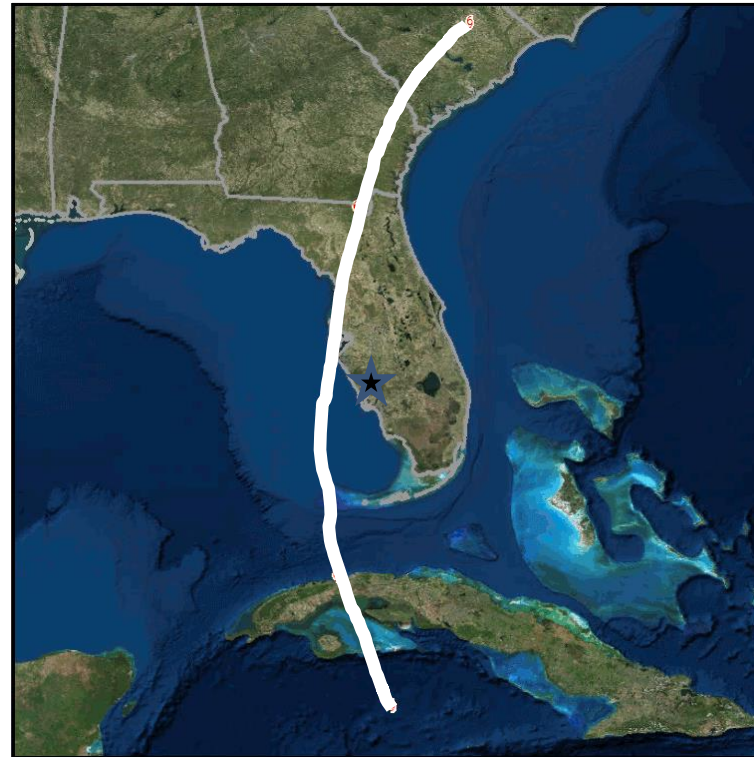
A Hurricane Forecast Depicts the Most Likely Scenario...



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Not the ONLY Possible Scenario!



There are multiple alternate scenarios which must be considered in **EVERY** hurricane forecast

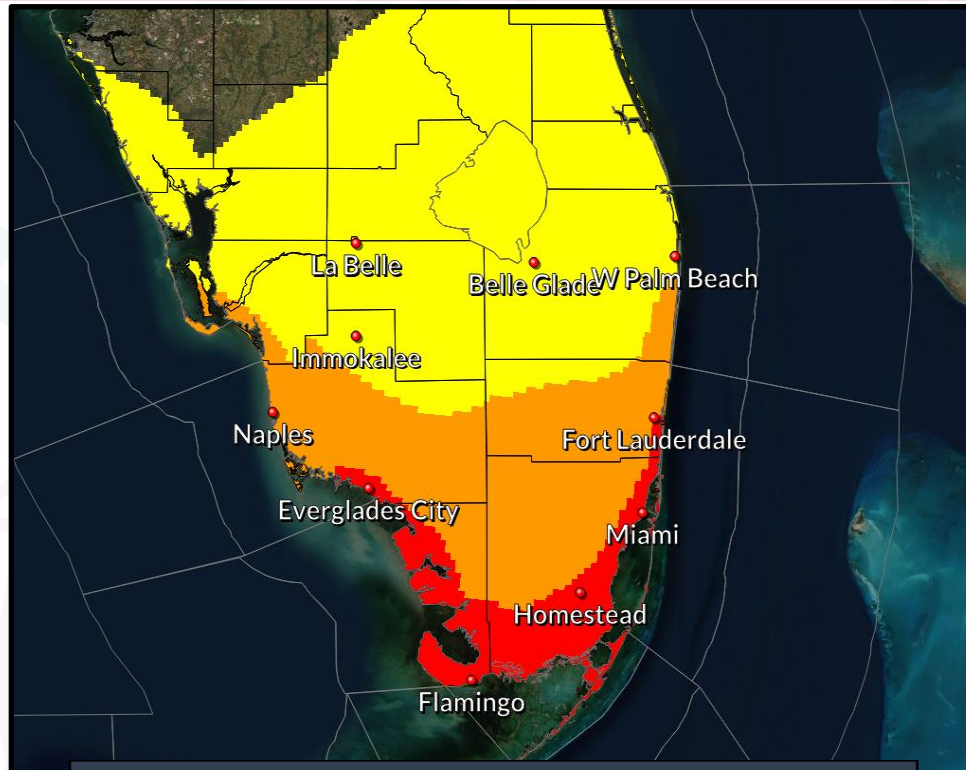
Taking this into consideration is crucial for **making responsible decisions that lead to actions proportional to the threat**

Hurricane Threats and Impacts



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Local Threat and Impact Information



Potential Wind Impacts *Reasonable Worst Case Scenario*

Potential for Winds Greater Than 110 mph

Potential for Winds 74 to 110 mph

- Considerable roof damage to sturdy buildings, with some having window, door, and garage door failures leading to structural damage
- Mobile homes severely damaged, with some destroyed
- Damage accentuated by airborne projectiles
- Locations may be uninhabitable for weeks
- Many large trees snapped or uprooted along with fences and roadway signs blown over
- Several bridges, causeways, and access routes impassable
- Large areas with power and communications outages

Potential for Winds 58 to 73 mph

Potential for Winds 39 to 57 mph

Potential for Winds Less Than 39 mph

- Hurricane Threats and Impacts graphics show the potential level of impact **AND** geographical extent for each of the storm's four primary hazards, based on a ***reasonable worst case scenario***
- Provides a **whole picture of the potential threat levels** for each hazard with any given storm
- Based on a **range of possible scenarios**, not only the official forecast

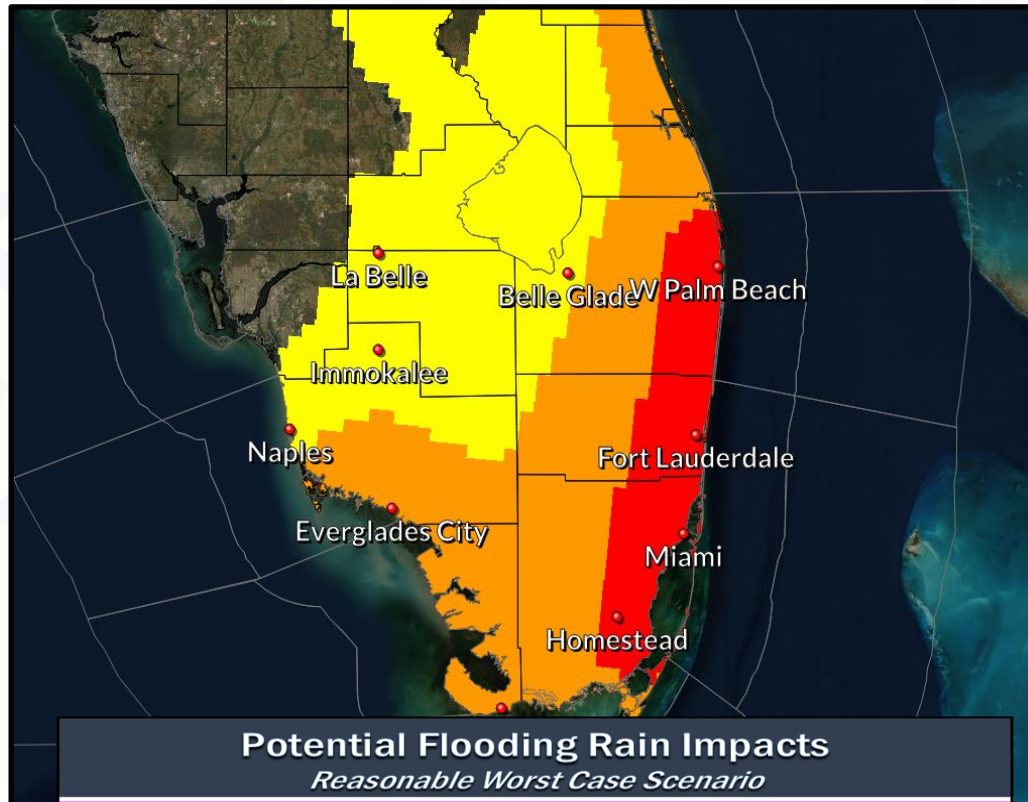
[weather.gov/miami](https://www.weather.gov/miami)

Hurricane Threats and Impacts



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Local Threat and Impact Information



Potential Flooding Rain Impacts

Reasonable Worst Case Scenario

Potential for Extreme Flooding Rain

Potential for Major Flooding Rain

- Ditches and canals may rapidly overflow their banks in multiple places
- Flood control systems and barriers may become stressed
- Flood waters can enter many structures within multiple communities, some structures becoming uninhabitable or washed away
- Many places where flood waters may cover escape routes
- Streets, parking lots and underpasses become submerged
- Many road and bridge closures with some weakened or washed out

Potential for Moderate Flooding Rain

Potential for Localized Flooding Rain

Little to No Potential For Flooding Rain

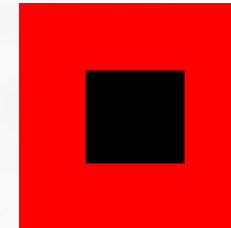
- For what potential threats/impacts should I plan/prepare?
- Based on a **range of possible scenarios**, not only the official forecast
- Colorized threat maps with potential impacts statements for each hazard
 - Wind Threat
 - Storm Surge Threat
 - Flooding Rain Threat
 - Tornado Threat

[weather.gov/miami](http://www.weather.gov/miami)

Watches & Warnings

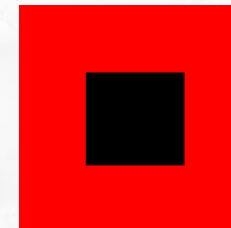
Hurricane Watch

- Hurricane conditions are possible somewhere within the watch area, generally within 48 hours



Hurricane Warning

- Hurricane conditions are expected somewhere within the warning area, generally within 36 hours



Note: The lead time for Hurricane Watches and Warnings is tied to the anticipated arrival time of tropical-storm-force winds.

Watches & warnings are a risk communication tool, not an explicit forecast!



**Remember: There is
inherent **uncertainty**
in tropical cyclone
forecasts!**



- Get the latest information from trusted sources

- National Weather Service
- **LOCAL media outlets**
- **Local** officials (city, county)
- National and social media: good, **BUT** rely on information originating from the above sources

- **Weather.gov/miami**

- Facebook & Twitter: NWSMiami

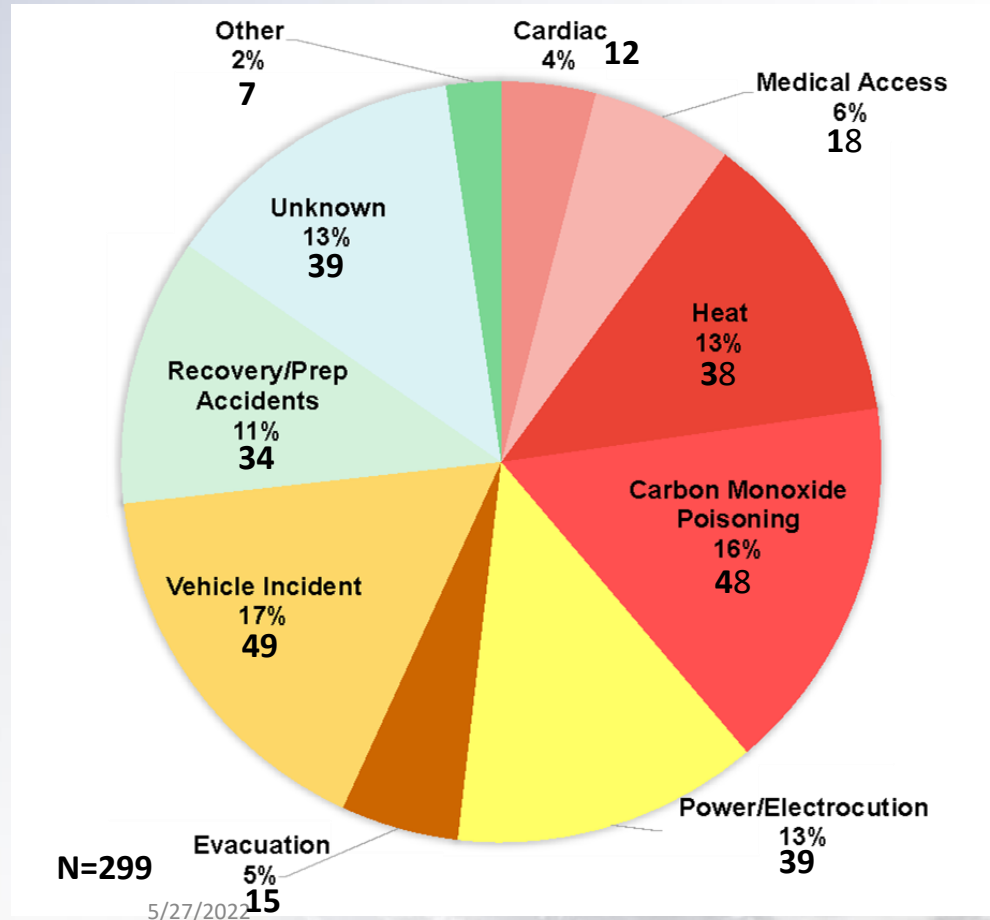


- Hurricane forecasts are updated by the NWS every 6 hours
- Hurricanes (and all weather) are part of a continuously evolving process. **Forecast scenarios CAN and DO change**
- Don't fall into "anchoring bias" trap. It can put your life at risk!
- NWS forecasters work 24 hours a day to make sure you have the latest information to keep you and your family safe



- Know whether you live and/or work in an evacuation zone
- If so, where you plan on spending the storm should be part of your hurricane plan
- If not, plan to “shelter in place”, or at a relative/friends home. Do not wait until last minute to leave town

U.S. Atlantic Indirect TC Fatalities – 2017-2021



- Almost 300 indirect fatalities
- Spread among numerous causes
- Biggest causes are vehicle incidents (49), carbon monoxide poisoning (48), power/electrocution (39), and heat (38)
- Deaths related to power outages, heat, and CO poisoning account for 42% of the total
- Medical related issues, including heat, account for about 23% of total

Important “Take-Aways”



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- Use seasonal tropical forecasts as a reminder to have your hurricane preparedness plan in place before the start of the season!
- Hurricanes bring a variety of threats (damaging winds, storm surge, tornadoes, and flooding rainfall), *but each storm is different*
- **Weather.gov/miami (your one-stop source for ALL South Florida weather information)**

Thank you and Stay Safe!

Robert Molleda

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